SDMS US EPA REGION V -1

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757576 REF 10

APPENDIX C ISSUE SUBMITTAL FORM

Site Information	Dates
Name: Area #1 Region: 5	Issue Submitted to HQ:
Location: Sauget/Callokia Illinois	Review Team Discussed:
EPA ID#: 7 \$5 see attached	Resolution communicated
Status: SSI / Scoring	to Region:
•	
Contact Information (including phone num	ibers)
Issue Submitted by: State of Illinois	5
SAB Headquarters Regional Coordinator:	
MITRE Regional CA: William Chart	*
Regional Contact: Alan Altur a	lan alter
Issue: Aggregation of 6 sites and	6 Segments of Dead Creek
Siv sites lie along either s	side of an intermittant creek that
	ies and creek have been the recipients
of Huerdous waste from the area in	
	·

MEMORANDUM

Date: February 20, 1992

To: Alan Altur, USEPA for SAB Issue Submittal

From: Timothy J. Murphy, IEPA

Subject: L1630200005 -- St. Clair County

Sauget Sites Area #1

Superfund/HRS

Purpose: To show how similarities of six hazardous waste

sites, including their drainage route (the Dead

Creek segments) enable them to qualify for

aggregation in HRS scoring for the NPL (Sept. 21,

1984 FR Vol. 49, No. 185, p. 37076).

Sites: Dead Creek Site G

Sites I/H

Waggoner Trucking Co., Site L H.H. Hall Excavation Pit, Site M

H.H. Hall Construction Co., Site N Dead Creek Segment A Dead Creek Segment B

Dead Creek Segments C through F

ILD 981953623

no 1 (ILD980614176) AA

ILD 984809269 ILD 984809251 ILD 982073603

ILD 984809277 ILD 980792006

ILD 984809285

Pertinent Area 1 Information

Three of the six sites that border Dead Creek were owned and operated by the village president, Leo Sauget at the time of waste disposal. The landfills, Sites G, H and I, were developed by Leo Sauget in an effort to capitalize on the proposed sewer system in 1932. Since the local industries were not to dump their toxic wastes into the system (the lines would corrode), the village president appears to have contracted with the industries to dispose of their waste. Sites H and I were the recipients of local industrial waste from the early 1930's to the late 1950's. Disposal at Site G began after Leo Sauget's site purchase in 1952 and continued as sporadic dumping into the 1970's. As the landfill space was used up, Leo Sauget's landfill operations moved to the Area #2 Sites. The two lagoons at Site L were operated by local waste haulers from the 1950's until the early 1980's (October 1, 1991 IEPA Memo from Paul Takacs).

Local Sauget Generators

American Zinc (later Big River Zinc followed by Amax Zinc) Darling Fertilizer (defunct)

Federal Chemical (later part of Krummrich Plant)

Industrial Salvage and Disposal Company (later Sauget and

Lewin Metals (later Cerro Copper Products)

Lubrite Refining (later Socony Vacuum, followed by Mobil Oil)
Midwest Rubber Reclaiming Company
Monarch Petroleum (later Sunoco, followed by Mineweld)
Monsanto Chemical Company - Krummrich Plant
Sterling Steel Castings
Union Electric Power Plant (defunct)
Rogers Cartage Company
US Chemical Warfare Service (later Monsanto then Edwin Cooper and now Ethyl Corporation)
Waggoner Trucking (later Ruan Transportation Corporation)
Wiese Planning and Engineering, Incorporated

Prior to the 1930's development of an interceptor sewer line to the Mississippi River, the industries closest to Dead Creek would let their waste flow into the intermittent creek. Even after the 36 inch sewer line was built, overflows, created by flooding or peaks in waste output, were routed into Dead Creek (Sanitary Water Board maps). In 1942, the Monsanto (Sauget) village engineer admitted that Dead Creek would be routinely used for waste discharge. Residents located between Sauget and Cahokia were awarded \$4,000 because of complaints about Dead Creek disposal. The local industries paid despite their claims that the discharges would be beneficial since the great volume of water would flush settled solids from Dead Creek into the Mississippi River (1942 Report to SWB).

Additional sources of effluent have been found entering Dead Creek (Sanitary Water Board maps). These include outfalls found during the 1990, 13 million dollar clean-up of Dead Creek Segment A by Cerro Copper Products and an 18 inch line from Midwest Rubber Reclaiming. This line discharged wastewater into CS-B as did the overflow from the Waggoner Trucking Company lagoons.

As local industry expanded, so did the hazardous and special waste haulers in the area. Leo Sauget legitamized his waste hauling and disposal business when he formed Industrial Salvage and Disposal Company (later Sauget and Company). Sauget and Company would use the local slag and fly ash from the Union Electric Plant for landfill cover materials. Waggoner Trucking Company also disposed wastes from local IEPA observed a Waggoner Trucking Company truck industries. dumping wastes directly into Dead Creek Segment B. Later, the company was forced to build several lagoons, known as Site L. The lagoons were designed to overflow into Dead The Waggoner Trucking Company operation was later sold to Ruan Transportation, who continued the use of the lagoons (Waggoner Trucking Co. PA). Another hazardous waste hauler used by the area generators was Rogers Cartage, owned by J. Tolbird. Mr. Tolbird purchased the filled Site H, where he may have deliberately dumped liquid wastes (1981 aerial photograph).

Two former sand pits that lie alongside Dead Creek are Sites M and N. These pits were owned by H.H. Hall Construction Company at the times of disposal. Although unsubstantiated, these pits were recipients of local wastes as evidenced by sample data and historical aerial photographs.

USEPA's February, 1981, Thermal Infrared Survey of Hazardous Waste Sites East St. Louis, Illinois (TS-AMD-8128) has shown thermal discharges in Dead Creek as well as leachate seeps entering the creek from Sites I, G and N. The ponded water at Site M is interconnected with Dead Creek by an 8 foot opening into at Segment B.

Proximity of Sites and Targets

Evidence of Area #1 disposal can be observed from historical aerial photographs. The photos also show the sites with relation to one another. The 6 Sites lie along both sides of Dead Creek Segments A through F. The greatest distance between sites farthest apart is 2,600 feet from site I to N. Intermittent Dead Creek drains all of the sites and runs 18,500 feet from The beginning of CS-A to the End of CS-F as it enters the Old Prairie Dupont Creek. Old topographic maps indicate that Dead Creek originates in the manufacturing areas.

The village of Sauget has 200 inhabitants while the village of Cahokia has 15,000. Over 150 people live within 200 feet of observed contamination and an estimated 750,000 people are within 4 miles of the sites.

Hydrogeologic conditions are the same for the sites and surrounding area. The high porosity alluvial deposits are a source of potable water for a few of local populations. Most residents are hooked into a source from an upstream Mississippi River intake.

Similar Wastes at the Sites

The following table shows the contaminants found in the soil or sediment at each of the sites or segments. In many of the cases, the contaminant was found in more than one of the samples collected at the site or segment.

As would be expected for this type of geology, groundwater contamination has been found under all of the sites. The contaminants include the soluble compounds and analytes listed in the table.

SAUGET SITES AREA #1 SITES G, H, I, L, M, N, CS-A-F

MAX	IMUM SOIL/SEDIMENT CONC. AT:	G	Н	I	L	M	N	
	SELECTED PARAMETER	11/11/86 02/24/87	12/18/86 01/06/87	01/27/87 02/05/87	12/12/86	11/05/91	12/15/86	
VOL	ATILES (ppm)							
	1,2-Dichloroethene(total)	0.7 J			20			
	Chloroform	11.628	0.192					
	1,2-Dichloroethane	0.4 J	0.012J	-				
	2-Butanone (MEK)	12.286			~-			
	1,1,1-Trichloroethane			1.692				
	Trichloroethene	3.846	0.01 J	3.81				
	Benzene	45.3	61,29	24.13	4.2			
•	4-Methyl-2-Pentanone	6	7.842J	4.158	0.17		0.004J	
	Tetrachloroethene	58.571	5.645	5.265				
	Toluene	117.647	76.45	77.91	27			
	1,1,2,2-Tetrachloroethane	0.581J						
	Chlorobenzene	538.462E	451.613B	126.9		10		
	Ethylbenzene	16.923	12.788	15.07	0.04 J	0.82 J		
	Xylene(total)	41.538	23.63	19.18	0.67 J	-		
SEM	IVOLATILES (ppm)							
	Phenol	177.8	0.4 J	27 J	1.5 J			
	2-Chlorophenol	8.8 J	~-		2.2	کنب وب		
N	1,3-Dichlorobenzene	240 J	240 J	70		40		
	1,4-Dichlorobenzene	22000	31000 B	1800		40		
	1,2-Dichlorobenzene		19000 E	140		26		
	Methylphenol				1.1 J			
	2,4-Dichlorophenol	141.1 J	741.9			14		
	1,2,4-Trichlorobenzene	120 J	7600	8300 E	0.53 J	3.3 J		
	Naphthalene	5400	2300	510	0.53 0	J.J U		
	4-Chloroaniline		250		1.1 J	6.9 J		
	2-Methylnaphthalene	37 J	350	170	1.1 5	-~		
	2,4,6-Trichlorophenol	0.49	612.9				~-	
	2-Nitroaniline	220						
	4-Nitrophenol	1000 0.9 J	600	5.6				
	Dibenzofuran		480	35		5.2 J		
	Fluorene		1800	35		5.2 0		
	4-Nitroaniline		1800	100 J				
	N-Nitrosodiphenylamine			1300				
	Hexachlorobenzene			1300				

SAUGET SITES AREA #1 SITES G, H, I, L, M, N, CS-A-F

SAUGET SITES AREA #1 SITES G, H, I, L, M, N, CS-A-F				L	м	N
MAXIMUM SOIL/SEDIMENT CONC. AT:	G 11/11/86	H 12/18/86	I 01/27/87 02/05/87	12/12/86	11/05/91	12/15/86
SELECTED PARAMETER	02/24/87	01/06/87	02/05/05			
SEMIVOLATILES (cont. ppm) Pentachlorophenol Phenanthrene Anthracene Fluoranthene Pyrene Benzo(a)anthracene Chrysene Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Dibenz(a,h)anthracene Benzo(g,h,i)perylene	4800 51 J 45 85 39 J 10 22 J 5.2 5.4 1.5 J	2100 680 1330 660 270 	190 100 200 200 49 J 6.7 32 J 2.5	58 1.8 J 0.45 0.91 J 0.2 	12 J 2.5 J 21 23 9.4 J 12 15 9.3 J 7.5 J 3.7 J 1.2 J	
PESTICIDES/PCB'S (ppm) 4,4'-DDB 4,4'-DDD 4,4'-DDT Toxaphene Aroclor-1242 Aroclor-1248 Aroclor-1254 Aroclor-1260	0.3 27300 C 29000 C		30 4.3 490 340 J	 	 210 81 J	
INORGANICS (ppm) Arsenic Barium Cadmium Chromium Cobalt Copper Lead Mercury Nickel Selenium Vanadium Zinc	39 169000 46 985 89 5500 18400 34.3 382 4.1 19400 67800	388 3242 294 100 105 2444 1150 3.9 15097 2 95 39516	R 14 3603 13 731 140 630 * 23330 * 2405 553 6329	172 197 6 16 9 141 106 0.1 2392 25 166	9060 47.2 183 20.6 21000 1910 2490 37.7 31600	3 * 130 8 4 10 34 9 * 11 65

SAUGET SITES AREA #1 SITES G, H, I, L, M, N, CS-A-F

MAXIMUM SOIL/SEDIMENT CONC. AT: SELECTED PARAMETER	CS-A * 11/06/86	CS-B 11/05/86	CS-C 11/05/86	CS-D 11/05/86 03/28/91	CS-E 03/28/91	CS-F 03/27/91
SELECIED PARAMETER				03/20/31		
VOLATILES (ppm)						
1,2-Dichloroethene(total)			~-			ter -===
Chloroform					***	
1,2-Dichloroethane						
2-Butanone (MEK)		14				
1,1,1-Trichloroethane						
Trichloroethene						
Benzene		0.087J				
4-Methyl-2-Pentanone		0.22 J				
Tetrachloroethene						
Toluene		0.81				
1,1,2,2-Tetrachloroethane				6 J	120	
Chlorobenzene	0.048J	5.2			120	
Ethylbenzene		3.6 0.99				
Xylene(total)		0.99				
SEMIVOLATILES (ppm)						
Phenol			0.58 J		~-	-
2-Chlorophenol					~-	
1,3-Dichlorobenzene	0.55 J	~-	0.11 J			
1,4-Dichlorobenzene	2.9	220	0.69 J		1.5 J	
1,2-Dichlorobenzene	0.48	17 J			0.32 J	
Methylphenol		~-				
2,4-Dichlorophenol						
1,2,4-Trichlorobenzene	1.5 J	5.4 J	0.26 J			
Naphthalene	0.13 J	9.5 J	0.33 J			
4-Chloroaniline	1 J					
2-Methylnaphthalene	0.45 J	8.4 J	0.1 J			
2,4,6-Trichlorophenol						
2-Nitroaniline						
4-Nitrophenol		2.6 J				
Dibenzofuran	~-					
Fluorene		3.9 J	0.37 J			
4-Nitroaniline						
N-Nitrosodiphenylamine	0.22 J			~-		
Hexachlorobenzene	1.1 J					

^{*} remediated as of 11/01/90

SAUGET SITES AREA #1 SITES G, H, I, L, M, N, CS-A-F MAXIMUM SOIL/SEDIMENT CONC. AT:	CS-A * 11/06/86	1	CS-B 1/05/86	CS-C 11/05/86		CS-D 11/05/86 03/28/91	CS-E 03/28/91	CS-F 03/27/91
SELECTED PARAMETER SEMIVOLATILES (Cont. ppm)	0.8	T	0.945		_	 0.22 J	 0.32 J	
Pentachlorophenol Phenanthrene	0.19		15 J	0.81 0.5	J			 0.31 J
Anthracene	0.6	J	11 J	4.6	_	0.51 J 0.48 J	0.47 J 5.3	0.34 J
Fluoranthene Pyrene	1.4	J	13 J 0.43 J	4.5 3.3			2.8	
Benzo(a) anthracene		J	1.2 J	4.4 7.5		0.083J 0.5 J	2.4	·
Chrysene Benzo(b)fluoranthene	1	J	3.4 J 1.5 J	0.93	2	 0.24 J		
Benzo(k)fluorantnene	0.54		1.8 J	4.5 4.3		0.31 J		
Benzo(a)pyrene Indeno(1,2,3-cd)pyrene	0.57 0.96		1.8	4		0.36 J		
Dibenz(a,h)anthracene Benzo(g,h,i)perylene			0.39 J	1.5				
PESTICIDES/PCB'S (ppm)						0.58		
4.4'-DDE								
4,4'-DDD 4,4'-DDT								
~\ Toxaphene			,	 8.7			'	
Aroclor-1242 Aroclor-1248	21	C	480 C	11		7.5	45.653 14.273	4.486 0.862
Aroclor-1254	71 24	c	66 0		J	4.5	14.2.5	
Aroclor-1260							30.3	19.5
INORGANICS (ppm)	76	R	21	33 1700	F	11.2 622	3690	313 23.5
Arsenic Barium	732 31		17300 36	. 42		42 48	23.1 105	37.7
Cadmium	206		153	68 10		12	12.7 B	18.8 520
Chromium Cobalt	27 11400	*	11 15300 ¹	6640	1	* 1630 *	8540 1270	83
Copper	2030		1460	975 2.8	9 1	480 1	1.53	0.34 772
Lead Mercury	5.62 765	R*	1.68 1520 1	R 1290	1	<i>1</i> /	R* 2130 3 1.4 E	
Nickel	3.3	-`	4.1	2. 36	5	0.7 F 41.2	53.3	54.3 4520
Selenium Yanadium	25 3420		48 11900	15600		6590	9970	45ZU
Zinc	3420							

^{*} remediated as of 11/01/90

SAUGET SITES AREA #1 SITES G, H, I, L, M

MAXIMUM GROUNDWATER CONC. AT:	G 03/17/8		H 03/17/8		I 03/23/8	17	L 03/24/87	1	M 03/26/87	1
SELECTED PARAMETER	03/24/8	17	03/24/8	,					private	
VOLATILES (ppb)										
Vinyl Chloride					790					
1,2-Dichloroethene(total)	110				640					
1,1-Dichloroethene					10					
Carbon Disulfide									3	J
Chloroform	9		3000		110	J	730		2	J
1,1-Dichloroethane					120					
1,2-Dichloroethane	480						-			
2-Butanone (MEK)	560									
1,1,1-Trichloroethane	51	J								
Trichloroethene	800				270					
Benzene	4100		4300		1400		150			
4-Methyl-2-Pentanone	2200		3600		230	J	270	В	~-	
Tetrachloroethene	420				470		-~			
Toluene	7300		7300		740		790	В	1	BJ
1,1,2,2-Tetrachloroethane										
Chlorobenzene	3100		11000		3100				~~	
Ethylbenzene	840		210		190				4	J
Styrene					~-				2	J,
Xylene(total)	400		120	J	58					
SEMIVOLATILES (ppb)										
Phenol	30000				1800		150			
2-Chlorophenol	1900				370		150			
1,3-Dichlorobenzene					110					
1,4-Dichlorobenzene	570				910					
1,2-Dichlorobenzene	200	J			220	J				
Benzyl alcohol	8600				350					
Methylphenol										
2-Methylphenol	810				76		6	J		
4-Methylphenol	9000				350		75			
N-nitroso-di-n-propylamine			800							
2,4-Dimethylphenol	4300									
Benzoic Acid	15000	E								
Bis(2-chloroethoxy)methane	7300		~-		2900					
2,4-Dichlorophenol	480	J			1000					
1,2,4-Trichlorobenzene	1900				2700		~~			
Naphthalene	18000				230					
4-Chloroaniline			30		15000	E	60			
4-chloro-3-methylphenol			~-		140	J				
2-Methylnaphthalene					9	J				

SAUGET SITES AREA #1 SITES G, H, I, L, M

D

MAXIMUM GROUNDWATER CONC. AT:	G 03/17/87	7	H 03/17/8	7	03/23/87	L 03/24/87	M 03/26/87
SELECTED PARAMETER	03/24/87	7	03/24/8	7			private
SEMIVOLATILES (cont. ppm)					200		
2,4,6-Trichlorophenol	350			_	290		
Dimethylphthalate			8	J			
Dibenzofuran			6	J		-~	
Diethylphthalate			22	J			
4-Chlorophenyl-phenylether	~-		20 -	J			 .
Fluorene			25	J			
N-Nitrosodiphenylamine	~-		800				
Pentachlorophenol	6300		2400	_	650		-~
Phenanthrene	~-		15	J			
Benzo(a)anthracene	32						
Chrysene	6	J					
Bis(2-ethylhexyl)phthalate	24		24	J			
Di-n-octyl phthalate	-						4 J
PESTICIDES/PCB'S (ppb)							
Alpha BHC	70	C					
Aroclor-1260	890						
INORGANICS (ppb)							
Aluminum	85		11800			1 4000	26
Arsenic	178		8490		20	14000	26
Barium	610		173		956		292
Cadmium						32	
Chromium	41		758				
Cobalt	588					84	
Copper			2410				115
Lead						~-	
Mercury	2.1						0.2
Nickel	349		17200		95	111	
Selenium						150	
Vanadium						159	
Zinc	129		6864		26	2210	~-
Cyanide	157		480				

U.S.E.P.A. DEFINED DATA QUALIFIERS

QUALIFIER DEFINITION ORGANICS

DEFINITION INORGANICS

Compound was tested for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture. For soil samples subjected to GPC clean-up procedures, the CRQL is also multiplied by two, to account for the fact that only half of the extract is recovered.

Analyte was analyzed for but not detected.

Estimated value. Used when J estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed or when the mass spectral data indicate the presence of a compound that meets the identification criteria and the result is less than the sample quantitation limit but greater than zero. Used in data validation when the quality control data indicate that a value may not be accurate.

Estimated value. Used in data validation when the quality control data indicate that a value may not be accurate.

 C This flag applies to pesticide results where the identification is confirmed by GC/MS. Method qualifier indicates analysis by the Manual Spectrophotometric method.

Analyte was found in the associated blank as well as in the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action

The reported value is less than the CRDL but greater than the instrument detection limit (IDL).

Identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form I for the diluted sample, and all concentration values are flagged with the "D" flag.

not used

QUALIFIER DEFINITION ORGANICS

DEFINITION INORGANICS

Ē Identifies compounds whose concentrations exceed the calibration range for that specific analysis. All extracts containing compounds exceeding the calibration range must be diluted and analyzed again. If the dilution of the extract causes any compounds identified in the first analysis to be below the calibration range in the second analysis, then the results of both analyses must be reported on separate Forms I. The Form I for the diluted sample must have the "DL" suffix appended to the sample number.

The reported value is estimated because of the presence of interference

This flag indicates that a TIC is a suspected aldol concentration product formed by the reaction of the solvents used to process the sample in the laboratory.

Method qualifier indicates analysis by Flame Atomic Absorption (AA).

M not used

Duplicate injection (a QC parameter) not met.

N not used

Spiked sample (a QC parameter) recovery not within control limits.

S not used.

The reported value was determined by the Method of Standard Additions (MSA).

W not used

Post digestion spike for Furnace AA analysis (a QC parameter) is out of control limits of 85% to 115% recovery, while sample absorbance is less than 50% of spike absorbance.

* not used

Duplicate analysis (a QC parameter) not within control limits.

+ not used

Correlation coefficient for MSA (a QC parameter) is less than 0.995.

QU	ALIFIER	DEFINITION ORGANICS	DEFINITION INORGANICS				
•	P	not used	Method qualifier indicates analysis by ICP (Inductively Coupled Plasma) Spectroscopy.				
•	CV	not used	Method qualifier indicates analysis by Cold Vapor AA.				
•	AV	not used	Method qualifier indicates analysis by Automated Cold Vapor AA				
•	AS	not used	Method qualifier indicates analysis by Semi-Automated Cold Spectrophotometry.				
•	т	not used	Method qualifier indicates Titrimetric analysis.				
•	NR	The analyte was not required to be analyzed.	The analyte was not required to be analyzed.				
•	R	Rejected data. The QC parameters indicate that the data is not usable for any purpose.	Rejected data. The QC parameters indicate that the data is not usable for any purpose.				



